[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-0530; Product Identifier 2017-NM-012-AD; Amendment 39-19271; AD 2018-09-14]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc., Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 2016-11-02, which applied to all Bombardier, Inc., Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes; Model CL-600-2D15 (Regional Jet Series 705) airplanes; Model CL-600-2D24 (Regional Jet Series 900) airplanes; and Model CL-600-2E25 (Regional Jet Series 1000) airplanes. AD 2016-11-02 required repetitive inspections of the upper and lower engine pylons for protruding, loose, or missing fasteners; and repair if necessary. This AD continues to require the repetitive inspections of the upper and lower engine pylons for protruding, loose, or missing fasteners; and repair if necessary. This AD also requires replacement of affected fasteners, which terminates the inspections. This AD was prompted by reports of loose or missing fasteners and collars on the upper and lower engine pylon structure common to the upper and lower pylon skin panels and

engine thrust fitting. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain other publications listed in this AD as of June 10, 2016 (81 FR 33371, May 26, 2016).

ADDRESSES: For service information identified in this final rule, contact Bombardier, Inc., 400 Côte Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514 855-7401; email thd.crj@aero.bombardier.com; Internet http://www.bombardier.com. You may view this referenced service information at the FAA, Transport Standards Branch, 2200 South 216th Street, Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2017-0530.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2017-0530; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal

holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (telephone 800-647-5527) is Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Aziz Ahmed, Aerospace Engineer, Airframe and Mechanical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7329; fax 516-794-5531.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2016-11-02, Amendment 39-18529 (81 FR 33371, May 26, 2016) ("AD 2016-11-02"). AD 2016-11-02 applied to all Bombardier, Inc., Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes; Model CL-600-2D15 (Regional Jet Series 705) airplanes; Model CL-600-2D24 (Regional Jet Series 900) airplanes; and Model CL-600-2E25 (Regional Jet Series 1000) airplanes. The NPRM published in the Federal Register on June 12, 2017 (82 FR 26864). The NPRM was prompted by reports of loose or missing fasteners and collars on the upper and lower engine pylon structure common to the upper and lower pylon skin panels and engine thrust fitting. The NPRM proposed to continue to require the repetitive inspections of the upper and lower engine pylons for protruding, loose, or missing fasteners; and repair if necessary. The NPRM also proposed to require replacement of affected fasteners, which

terminates the inspections. We are issuing this AD to prevent protruding, loose, or missing fasteners, which could result in structural failure of the engine pylons.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2016-10R1, dated July 8, 2016 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for all Bombardier, Inc., Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes; Model CL-600-2D15 (Regional Jet Series 705) airplanes; Model CL-600-2D24 (Regional Jet Series 900) airplanes; and Model CL-600-2E25 (Regional Jet Series 1000) airplanes. The MCAI states:

> There have been several reported findings of loose or missing Hi-Lite fasteners and collars on the left hand (L/H) and right hand (R/H) upper and lower engine pylon structure common to the upper and lower pylon skin panels and engine thrust fitting. Missing fasteners in these areas are shown to significantly reduce the safety margins and could result in a structural failure of the engine pylon.
>
> Bombardier, as an interim corrective action issued a new Aircraft Maintenance Manual (AMM) task for detailed inspection of the engine pylon rib and skin fasteners to inspect for protruding, loose or missing fasteners and rectify any discrepancies noted in accordance with a Repair Engineering Order (REO). The original version of this [Canadian] AD, CF-2016-10, mandated the subject inspection and necessary rectification.
>
> Bombardier has since issued Service Bulletin (SB) 670BA-54-007 to replace all affected fasteners with interference fit fasteners [including applicable related investigative and corrective actions], as terminating action for the mandated inspection requirement. [Canadian] AD CF-2016-10 is now being revised to mandate compliance with SB 670BA-54-007.

Related investigative actions include measurements of the attach holes in the engine

pylon upper structure and special detailed visual inspections for cracks in the engine pylon structure. Corrective actions include repair. You may examine the MCAI in the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2017-0530.

You may examine the MCAI in the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2017-0530.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request to Include Additional Service Information in Credit Paragraph

Mesa Airlines suggested that Bombardier Service Bulletin 670BA-54-007, dated May 13, 2016, be included in paragraph (l), "Credit for Previous Actions," of the proposed AD. The commenter did not provide justification for its request. We infer that the commenter made this request to provide credit for operators that completed the actions in Bombardier Service Bulletin 670BA-54-007, dated May 13, 2016, prior to the effective date of the proposed AD.

We do not agree that the commenter's requested change is needed. Paragraph (f) of this AD states that the actions specified in this AD must be accomplished "unless already done." The phrase "unless already done" provides credit for accomplishment of the actions required by paragraph (j) of this AD, if done in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 670BA-54-007, dated

May 13, 2016, prior to the effective date of this AD. Therefore, we have not changed this AD in this regard.

Request to Revise Paragraph (g) of the Proposed AD to Require Airplane Maintenance Manual Task

Bombardier requested that Task 54-51-01-220-801, "Detailed Inspection of the Engine Pylon Rib and Skin Fasteners," to Chapter 54, "Nacelle/Pylons," to Part 2 of the Bombardier CRJ700/900/1000 Aircraft Maintenance Manual (AMM), be required by paragraph (g) of the proposed AD in lieu of Bombardier Temporary Revision (TR) 54-0007, dated March 8, 2016, to the CRJ700/900/1000 AMM. The commenter stated that Bombardier TR 54-0007 was incorporated into Revision 52 of the Bombardier CRJ700/900/1000 AMM, and that the AMM is currently at Revision 56.

We partially agree with the commenter's request. We agree to include Task 54-51-01-220-801, "Detailed Inspection of the Engine Pylon Rib and Skin Fasteners," to Chapter 54, "Nacelle/Pylons," to Part 2 of the Bombardier CRJ700/900/1000 AMM as a method of compliance in paragraph (g) of this AD, but we do not agree to remove Bombardier TR 54-0007, dated March 8, 2016, to the Bombardier CRJ700/900/1000 AMM. We have revised paragraph (g) of this AD to include both Task 54-51-01-220-801, "Detailed Inspection of the Engine Pylon Rib and Skin Fasteners," to Chapter 54, "Nacelle/Pylons," to Part 2 of the Bombardier CRJ700/900/1000 AMM, CSP B-001, Revision 56, dated September 25, 2017; and Bombardier TR 54-0007, dated March 8, 2016. This revision provides operators with an option to use either service document to accomplish the required action.

Conclusion

We reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously and minor editorial changes. We have determined that these changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information under 1 CFR part 51

Bombardier, Inc., issued Service Bulletin 670BA-54-007, dated May 13, 2016. This service information describes procedures for replacing fasteners and collars, including applicable related investigative and corrective actions.

Bombardier, Inc., also issued Repair Engineering Order 670-54-51-034, "Repair for Missing or Loose/Protruding Fasteners in Upper and Lower Pylon Skins FS 1088 - FS 1098, PBL 69.3 L & RHS," Revision A, dated April 20, 2016. This service information describes procedures for repair, including applicable related investigative and corrective actions.

In addition, Bombardier, Inc., issued TR 54-0007, dated March 8, 2016, to the CRJ700/900/1000 AMM; and Task 54-51-01-220-801, "Detailed Inspection of the Engine Pylon Rib and Skin Fasteners," to Chapter 54, "Nacelle/Pylons," to Part 2 of the

Bombardier CRJ700/900/1000 AMM, CSP B-001, Revision 56, dated September 25, 2017. This service information describes procedures for a detailed visual inspection for protruding, loose, or missing fasteners of the left-hand and right-hand upper and lower engine pylons. The content of these documents is nearly identical, except for labels on the figures; we have chosen to incorporate both documents by reference so that either may be used to comply with certain requirements of this AD.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

We estimate that this AD affects 273 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection (retained from AD 2016-11-02)	1 work-hour X $85 per hour = $85 per inspection cycle	$0	$85 per inspection cycle	$23,205 per inspection cycle
Replacement (new action)	43 work-hours X $85 per hour = $3,655 per inspection cycle	$1,808	$5,463 per inspection cycle	$1,491,399 per inspection cycle

We estimate the following costs to do any necessary repairs that will be required based on the results of the inspection. We have no way of determining the number of aircraft that might need these repairs:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Repair (retained from AD 2016-11-02)	Up to 32 work-hours X $85 per hour = $2,720	[1]	Up to $2,720

[1] We have received no definitive data that will enable us to provide cost estimates for the parts cost specified in this AD for the on-condition repairs.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes to the Director of the System Oversight Division.

Regulatory Findings

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;

2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);

3. Will not affect intrastate aviation in Alaska; and

4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2016-11-02, Amendment 39-18529 (81 FR 33371, May 26, 2016), and adding the following new AD:

2018-09-14 Bombardier, Inc.: Amendment 39-19271; Docket No. FAA-2017-0530; Product Identifier 2017-NM-012-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2016-11-02, Amendment 39-18529 (81 FR 33371, May 26, 2016) ("AD 2016-11-02").

(c) Applicability

This AD applies to the airplanes identified in paragraphs (c)(1) through (c)(4) of this AD, certificated in any category.

(1) Bombardier, Inc., Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, serial numbers (S/Ns) 10002 through 10344 inclusive.

(2) Bombardier, Inc., Model CL-600-2D15 (Regional Jet Series 705) airplanes, S/Ns 15001 through 15388 inclusive, 15391, 15392, and 15395.

(3) Bombardier, Inc., Model CL-600-2D24 (Regional Jet Series 900) airplanes, S/Ns 15001 through 15388 inclusive, 15391, 15392, and 15395.

(4) Bombardier, Inc., Model CL-600-2E25 (Regional Jet Series 1000) airplanes, S/Ns 19001 through 19044 inclusive.

(d) Subject

Air Transport Association (ATA) of America Code 54, Nacelles/Pylons.

(e) Reason

This AD was prompted by reports of loose or missing fasteners and collars on the upper and lower engine pylon structure common to the upper and lower pylon skin panels and engine thrust fitting. We are issuing this AD to prevent protruding, loose, or missing fasteners, which could result in structural failure of the engine pylons.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Retained Inspection, with a Reference to Terminating Action and Additional Service Information

This paragraph restates the requirements of paragraph (g) of AD 2016-11-02, with a reference to new terminating action and additional service information. At the applicable time specified in paragraph (g)(1) or (g)(2) of this AD: Do a detailed visual inspection for protruding, loose, or missing fasteners of the upper and lower engine pylons, in accordance with Bombardier Temporary Revision 54-0007, dated March 8, 2016, to the CRJ700/900/1000 Aircraft Maintenance Manual; or Task 54-51-01-220-801, "Detailed Inspection of the Engine Pylon Rib and Skin Fasteners," to Chapter 54, "Nacelle/Pylons," to Part 2 of the Bombardier CRJ700/900/1000 Aircraft Maintenance Manual, CSP B-001, Revision 56, dated September 25, 2017. Repeat the inspection thereafter at intervals not to exceed 1,500 flight hours. Accomplishment of the replacement required by paragraph (j) of this AD is terminating action for the inspections required by this paragraph.

(1) For airplanes that have accumulated more than 840 total flight hours as of June 10, 2016 (the effective date of AD 2016-11-02): Inspect within 660 flight hours or 3 months, whichever occurs first, after June 10, 2016.

(2) For airplanes that have accumulated 840 total flight hours or less as of June 10, 2016 (the effective date of AD 2016-11-02): Inspect before the accumulation of 1,500 total flight hours.

(h) Retained Repair, with New Service Information and Contact Information

This paragraph restates the requirements of paragraph (h) of AD 2016-11-02, with new service information and contact information. If any protruding, loose, or missing fastener is found during any inspection required by paragraph (g) of this AD, before further flight, repair, including applicable related investigative and corrective actions, in accordance with Bombardier Repair Engineering Order (REO) 670-54-51-034, "Repair for Missing or Loose/Protruding Fasteners in Upper and Lower Pylon Skins FS 1088 - FS 1098, PBL 69.3 L & RHS," dated March 7, 2016, or Revision A, dated April 20, 2016; except where Bombardier REO 670-54-51-034, "Repair for Missing or Loose/Protruding Fasteners in Upper and Lower Pylon Skins FS 1088 – FS 1098, PBL 69.3 L & RHS," dated March 7, 2016, or Revision A, dated April 20, 2016; specifies to contact Bombardier for further instruction, before further flight, repair using a method approved by the Manager, FAA, New York ACO Branch; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). As of the effective date of this AD, use Bombardier REO 670-54-51-034, "Repair for Missing or Loose/Protruding Fasteners in Upper and Lower Pylon Skins FS 1088 - FS 1098, PBL 69.3 L & RHS," Revision A, dated April 20, 2016, for the actions required by this paragraph.

(i) Retained Credit for Previous Actions, with No Changes

This paragraph restates paragraph (i) of AD 2016-11-02, with no changes. This paragraph provides credit only for the initial inspection specified in paragraph (g) of this AD, if that action was performed before June 10, 2016 (the effective date of AD 2016-11-02) using Bombardier Reference Instruction Letter 4212, dated

December 23, 2015; or Bombardier Reference Instruction Letter 4212A, Revision A, dated January 28, 2016. These documents are not incorporated by reference in this AD.

(j) New Requirements of this AD: Fastener and Collar Replacement

Within 12,600 flight hours or 72 months after the effective date of this AD, whichever occurs first: Replace affected fasteners and collars, including doing all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 670BA-54-007, dated May 13, 2016. Where Bombardier Service Bulletin 670BA-54-007, dated May 13, 2016, specifies to contact Bombardier for appropriate action: Before further flight, accomplish the applicable corrective action in accordance with the procedures specified in paragraph (m)(2) of this AD.

(k) Terminating Action for the Introductory Text of Paragraph (g) of this AD

Accomplishing the replacement required by paragraph (j) of this AD constitutes terminating action for the inspections required by the introductory text of paragraph (g) of this AD.

(l) Credit for Previous Actions

(1) This paragraph provides credit for the actions specified in paragraph (h) of this AD, if those actions were performed before the effective date of this AD using Bombardier REO 670-54-51-034, "Repair for Missing or Loose/Protruding Fasteners in Upper and Lower Pylon Skins FS 1088 - FS 1098, PBL 69.3 L & RHS," dated March 7, 2016. This document was incorporated by reference in AD 2016-11-02.

(2) This paragraph provides credit for the actions specified in paragraph (j) of this AD, if those actions were performed before the effective date of this AD using Bombardier REO 670-54-51-035, "Permanent Repair for Clearance Fit Installed (-8) Size Fasteners in Upper and Lower Pylon Skins FS 1088 - FS 1098, PBL 69.3 L & RHS & Terminating Action for GREO 670-54-51-034," dated April 20, 2016. This document is not incorporated by reference in this AD.

(m) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, FAA, New York ACO Branch, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531.

(i) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(ii) AMOCs approved previously for AD 2016-11-02 are acceptable for the corresponding provisions of this AD.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, FAA, New York ACO Branch; or TCCA; or Bombardier, Inc.'s TCCA DAO. If approved by the DAO, the approval must include the DAO-authorized signature.

(n) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2016-10R1, dated July 8, 2016, for related information. This MCAI may be found in the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2017-0530.

(2) For more information about this AD, contact Aziz Ahmed, Aerospace Engineer, Airframe and Mechanical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7329; fax 516-794-5531.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (o)(5) and (o)(6) of this AD.

(o) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(3) The following service information was approved for IBR on [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(i) Bombardier Repair Engineering Order 670-54-51-034, "Repair for Missing or Loose/Protruding Fasteners in Upper and Lower Pylon Skins FS 1088 - FS 1098, PBL 69.3 L & RHS," Revision A, dated April 20, 2016.

(ii) Bombardier Service Bulletin 670BA-54-007, dated May 13, 2016.

(iii) Task 54-51-01-220-801, "Detailed Inspection of the Engine Pylon Rib and Skin Fasteners," to Chapter 54, "Nacelle/Pylons," to Part 2 of the Bombardier CRJ700/900/1000 Aircraft Maintenance Manual, CSP B-001, Revision 56, dated September 25, 2017.

(4) The following service information was approved for IBR on June 10, 2016 (81 FR 33371, May 26, 2016).

(i) Bombardier Temporary Revision 54-0007, dated March 8, 2016, to the CRJ700/900/1000 Aircraft Maintenance Manual.

(ii) Reserved.

(5) For service information identified in this AD, contact Bombardier, Inc., 400 Côte Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514 855-7401; email thd.crj@aero.bombardier.com; Internet http://www.bombardier.com.

(6) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th Street, Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(7) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued in Des Moines, Washington, on April 27, 2018.

Michael Kaszycki,
Acting Director,
System Oversight Division,
Aircraft Certification Service.

[FR Doc. 2018-09863 Filed: 5/23/2018 8:45 am; Publication Date: 5/24/2018]